UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/061,126	01/30/2002	Arnold Kholodenko	6089P1/CALB/ECP/PJS	2260

32588 7590 09/25/2003

APPLIED MATERIALS, INC.
2881 SCOTT BLVD. M/S 2061
SANTA CLARA, CA 95050

EXAMINER	
NICOLAS, WESLEY A	

ART UNIT	PAPER NUMBER
1742	

DATE MAILED: 09/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/061,126	Applicant(s) KHOLODENKO, ARNOLD
	Examiner Wesley A. Nicolas	Art Unit 1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 August 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-36* is/are pending in the application.

4a) Of the above claim(s) *18-36* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *2,4,6* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

This is in response to the claim election dated August 22, 2003. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-36 are currently pending in this application, with claims 18-36 drawn to a non-elected invention.

Election/Restriction

1. Claims 18-36 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 7.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See In re Goodman, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); In re Longi, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); In re Van Ornum, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); In re Vogel, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, In re Thorington, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1-17 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 22-27 of copending Application No. 09/905,513 in view of Miller et al. (U.S. 4,801,865).

Claims 1-17 are rejected because it would have been obvious and within the ordinary skill in the art at the time the invention was made to have applied the contact pins by brazing as taught by Miller et al. because Miller et al. teach that brazing is a common method of attaching contact pins (col. 3, lines 1-9) which would have increased the continuity of the bond because brazing is typically at a higher temperature than welding.

This is a provisional obviousness-type double patenting rejection.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 1, 3-5, 7-9, 11-13, and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dordi et al. (WO 99/54920), and further in view of Miller et al. (U.S. 4,801,865).

Dordi et al. teach an apparatus for electro-chemical deposition on a substrate, comprising:

- an annular conductive body adapted to support the substrate and having at least one pin receiving pocket formed therein (page 15 and Fig. 9, numerals 352, 354, 356, and 358); and
- a dielectric covering at least partially encapsulating the conductive body (Fig. 9, numerals 352 and 354);
- at least one electrical contact pin in the receiving pocket (Fig. 9, numeral 358), the contact pin adapted to electrically bias the substrate (page 15),
- the contact pin adapted to electrical bias the substrate proximate the substrate's perimeter (Fig. 10, substrate 202); and

- a first seal disposed inward of the electrical contact pin and providing a seal with the conductive body (Fig. 9, numeral 354).

Dordi et al. fail to specifically teach the attachment of the contact pin by brazing.

Miller et al. teach the attachment of the contact pins by brazing (col. 3, lines 1-9).

Claims 1, 9, and 17 are rejected because it would have been obvious and within the ordinary skill in the art at the time the invention was made to have modified Dordi et al. to use brazing to attach the contact pin of Miller et al. because Miller et al. teach the application of contact pins by brazing (col. 3, lines 1-9) which would have resulted in a more continuous bond because brazing is typically performed at higher temperatures than welding.

Claim 3 is rejected because Dordi et al. teach that the contact pin is a plurality of arc segments (Fig. 9, numeral 358).

Claim 4 is rejected because Dordi et al. teach that the contact pin is a plurality of cylindrical posts (Fig. 9, numeral 358).

Claim 5 is rejected because Dordi et al. teach that the conductive body further comprises:

- a first surface (page 15 and Fig. 9, numerals 356 and 358);
- a shoulder coupled to the first surface (Fig. 9, edge of numeral 354); and
- a substrate support surface extending inward from the shoulder and supporting the electrical contact pin thereon, the substrate support surface and shoulder defining a substrate receiving pocket (Fig. 9, top of numeral 354).

Claim 7 is rejected because Dordi et al. teach of a dielectric covering at least partially encapsulating the conductive body ().

Claim 8 is rejected because Dordi et al. teach that the contact pin further comprises: a portion extending from the conductive body and having a contact surface free from the dielectric covering (Fig. 9, numeral 358).

Claim 11 is rejected because Dordi et al. teach that the contact pin is a plurality of arc segments (Fig. 9, numeral 358).

Claim 12 is rejected because Dordi et al. teach that the contact pin is a plurality of cylindrical posts (Fig. 9, numeral 358).

Claim 13 is rejected because Dordi et al. teach that the conductive body further comprises:

- a first surface (page 15 and Fig. 9, numerals 356 and 358);
- a shoulder coupled to the first surface (Fig. 9, edge of numeral 354);
- a substrate support surface extending inward from the shoulder and supporting the electrical contact pin thereon, the substrate support surface and shoulder defining a substrate receiving pocket (Fig. 9, top of numeral 354); and
- an inner ring surface disposed radially inward of the substrate support surface, the inner ring surface in sealing communication with the first seal (Fig. 9, inner edge of numeral 354).

Claim 15 is rejected because Dordi et al. teach of a dielectric covering at least partially encapsulating the conductive body (page 15, and Fig. 9, numeral 350, 358, 356).

Claim 16 is rejected because Dordi et al. teach that the contact pin further comprises: a portion extending from the conductive body and having a contact surface free from the dielectric covering (Fig. 9, numeral 358).

7. Claims 1-2, 7, 9-10, 15, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crafts et al. (U.S. 5,807,469), and further in view of Miller et al. (U.S. 4,801,865).

Crafts et al. teach an apparatus for electro-chemical deposition on a substrate, comprising:

- an annular conductive body adapted to support the substrate and having at least one pin receiving pocket formed therein (Fig. 10, numeral 320); and
- a dielectric covering at least partially encapsulating the conductive body (Fig. 8, numerals 230 and 232);
- at least one electrical contact pin in the receiving pocket (Fig. 10, numeral 322), the contact pin adapted to electrically bias the substrate (col. 7, lines 38-48 wherein the pin electrically biases the substrate through annular conductive body 320),
- the contact pin adapted to electrical bias the substrate proximate the substrate's perimeter (Fig. 4, numeral 17); and
- a first seal disposed inward of the electrical contact pin and providing a seal with the conductive body (col. 8, lines 14-33).

Crafts et al. fail to specifically teach the attachment of the contact pin by brazing.

Miller et al. teach the attachment of the contact pins by brazing (col. 3, lines 1-9).

Claims 1, 9, and 17 are rejected because it would have been obvious and within the ordinary skill in the art at the time the invention was made to have modified Crafts et al. to use brazing to attach the contact pin of Miller et al. because Miller et al. teach the application of contact pins by brazing (col. 3, lines 1-9) which would have resulted in a more continuous bond because brazing is typically performed at higher temperatures than welding.

Claim 2 is rejected because Crafts et al. teach that the contact pin is an annular ring (Fig. 4, numeral 202).

Claim 7 is rejected because Crafts et al. teach of a dielectric covering at least partially encapsulating the conductive body (col. 8, lines 14-33).

Claim 10 is rejected because Crafts et al. teach that the contact pin is an annular ring (Fig. 4, numeral 202).

Claim 15 is rejected because Crafts et al. teach of a dielectric covering at least partially encapsulating the conductive body (col. 8, lines 14-33).

8. Claims 6 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Dordi et al. - Miller et al. combination, as applied to claims 1 and 9 above, and further in view of Woodruff et al. (U.S. 6,309,524).

The Dordi et al. - Miller et al. combination are as applied, argued, and disclosed above and incorporated herein, but fail to specifically teach a contact made of platinum.

Woodruff et al. teach a conductive contact ring made from platinum (col. 13, lines 12-19).

Claims 6 and 14 are rejected because it would have been obvious and within the ordinary skill in the art at the time the invention was made to have modified the Dordi et al. - Miller et al. combination to use a platinum contact area as taught by Woodruff et al. because Woodruff et al. teach a conductive contact ring made from platinum (col. 13, lines 12-19) which ensures adequate electrical conductivity and minimizes corrosion.

9. Claims 6 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Crafts et al. - Miller et al. combination, as applied to claims 1 and 9 above, and further in view of Woodruff et al. (U.S. 6,309,524).

The Crafts et al. - Miller et al. combination are as applied, argued, and disclosed above and incorporated herein, but fail to specifically teach a contact made of platinum.

Woodruff et al. teach a conductive contact ring made from platinum (col. 13, lines 12-19).

Claims 6 and 14 are rejected because it would have been obvious and within the ordinary skill in the art at the time the invention was made to have modified the Crafts et al. - Miller et al. combination to use a platinum contact area as taught by Woodruff et al. because Woodruff et al. teach a conductive contact ring made from platinum (col. 13, lines 12-19) which ensures adequate electrical conductivity and minimizes corrosion.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wesley Nicolas whose telephone number is (703)305-0082. The examiner can normally be reached on Mon.-Thurs. from 7am to 5pm.

The Supervisory Primary Examiner for this Art Unit is Roy King whose telephone number is (703) 308-1146.

The fax number for this Group is (703) 872-9310.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.

WESLEY A. NICOLAS
PATENT EXAMINER

September 16, 2003